Stink Bugs in Minnesota Soybean

Robert Koch, Extension Entomologist

NAME
Several species of stink bugs (Pentatomidae) can be found in soybean.

IDENTIFICATION
Adults:
- Shield-shaped bodies with a triangular structure (scutellum) on their backs
- 5-segmented antennae
- Piercing-sucking mouth parts (proboscis)
- Proboscis narrower than the thickness of the antennae for herbivores, and thicker than antennae for predators

Eggs: Barrel-shaped and often laid under leaves

Nymphs:
- Smaller size and more rounded shape than adults
- No wings or small undeveloped wings
- Five nymphal stages (instars)

NATURAL HISTORY
Most species undergo 1 to 2 generations per year.
Most feed on various crop and wild plants
Most overwinter as adults under leaf litter and loose bark; but some are household invaders.

IMPACTS
Prefer to feed on pods and developing seeds.
Penetrate plant tissues with proboscis, inject digestive enzymes, and remove nutrients
Feeding causes abortion, deformation, and discoloration of seed, which can affect yield and quality (Fig. 2).
Feeding can also cause delayed plant maturity (“stay-green syndrome”)
SCOUTING & MANAGEMENT

Stink bugs have infrequently reached economically significant levels in Minnesota, but invasive species and reported increases in abundance of native species could result in increased infestations.

Scouting

- Start scouting as pods begin to develop and continue through seed development.
- Scouting can be performed with a sweep net.
- Stink bugs typically colonize field edges first, so scouting should include edge and interior areas.

Treatment thresholds

- Decisions are based on the combined count of nymphs (> 1/4 inch long) and adults of all plant-feeding species.
- Reasonable thresholds for use in Minnesota are as follows.

TREATMENT THRESHOLDS

**Soybean grown for grain:** 10 bugs / 25 sweeps

**Soybean grown for seed:** 5 bugs / 25 sweeps

Labeled rates of insecticides should be used for treating stink bugs and follow directions on the product label.

Fields should be scouted after treatment to check for re-colonization.

BE ON THE LOOKOUT

The brown marmorated stink bug has recently invaded Minnesota. This species looks similar to some of the native species, but can be distinguished by the light-colored bands on the antennae and the alternating dark-light pattern on the edge of the abdomen (Fig. 3). In addition, under close inspection, the veins of the membranous parts of the wings are outlined in black.

Fig. 2: Injury to soybean caused by stink bug feeding (photo credit: D. Johnson, Univ. Kentucky).

Fig. 3: Brown marmorated stink bug. Note the bands on the antennae, alternating dark-light pattern on abdomen, and wing veins outlined in black (photo credit: S. Valley, OR Dept. Agric. Bugwood.org)